**DOCKET NO.:** HENK-0060 (H4714) **PATENT** 

**Application No.:** 10/774,018

Office Action Dated: January 19, 2007

This listing of claims will replace all prior versions, and listings, of claims in the application.

## **Listing of Claims:**

1. - 46. (Canceled)

- 47. (Previously presented) An agent for cleaning, comprising an amylolytic hybrid protein whose amino acid sequence comprises in each case in a homologous position at least one partial sequence encompassing more than one amino acid, which partial sequence is identical to that of *Bacillus amyloliquefaciens* α-amylase, and comprises in each case in a homologous position at least one partial sequence encompassing more than one amino acid, this partial sequence being identical to that of *Bacillus licheniformis* α-amylase, with the points of fusion of the hybrid amylase being located at one or more of positions 17, 34, 76, 108, 112, 142, 147, 149, 151, 163, 174, 179, 185, 191, 198, 207, 231, 234, 244, 256, 263, 276, 431, 84, 99, 429, 201, 19, 433 and 153 according to the numbering of SEQ ID No. 4.
- 48. (Previously presented) The agent of claim 47, wherein the hybrid amylases are AL17, AL108, AL142, AL147, AL149, AL151, AL163, AL174, AL179, AL185, AL191, AL198, AL207, AL231, AL234, AL244, AL263, AL276, AL431, ALA17-151, ALA76-151, ALA99-429, ALA112-151, ALA112-201, LA19 or LA431.
- 49. (Previously presented) The agent of claim 47, wherein hybrid amylases are AL34 (SEQ ID No. 6), AL256 (SEQ ID No. 12), ALA34-84 (SEQ ID No. 14) or LAL19-153 (SEQ ID No. 18).
- 50. (Previously presented) The agent of claim 47, wherein the hybrid proteins are those which are at least 98%, 99%, or 100%, identical to that of AL76 (SEQ ID No. 8).
- 51. (Previously presented) The agent of claim 47, wherein the hybrid proteins are those which are at least 98%, 99%, or 100%, identical to that of AL112 (SEQ ID No. 10).
- 52. (Previously presented) The agent of claim 47, wherein the hybrid proteins are those which are at least 98%, 99%, or 100%, identical to that of LAL19-433 (SEQ ID No. 16).

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53. (Previously presented) An agent for cleaning, comprising a hybrid amylase of claim 47, obtained by deletion of no more than 5 contiguous amino acids, no more than 3 contiguous amino acids, or only one amino acid, or by substitution of an amino acid.

- 54. (Previously presented) An agent for cleaning, comprising an amylolytic protein obtained by insertion mutation or an amylolytic chimeric protein which is identical at least in one part of a hybrid amylase of claim 47, which part confers amylolytic activity.
- 55. (Previously presented) An agent for cleaning, wherein it comprises an amylolytic derivative of a hybrid amylase of claim 47.
- 56. (Previously presented) The agent of claim 47, wherein it comprises from 0.000001 percent by weight to 5% by weight, or 0.00001 to 3% by weight, of the amylolytic protein or derivative.
- 57. (Previously presented) The agent of claim 47, further comprising one or more other amylolytic proteins, in particular  $\alpha$ -amylases.
- 58. (Previously presented) The agent of claim 47, further comprising other enzymes, in particular one or more proteases, lipases, β-glucanases or cellulases.
- 59. (Previously presented) The agent of claim 47, wherein the agent comprises more than one phase.
- 60. (Previously presented) The agent of claim 47, wherein it is solid and at least two different solid components, powders, granules, or extrudates, are present in an overall loose mixture.
- 61. (Previously presented) The agent of claim 47, wherein at least two solid phases bonded together are present, in particular after a joint compacting step.
- 62. (Previously presented) The agent of claim 59, wherein at least one of the phases comprises an amylase-sensitive material, starch, or is, at least partly, surrounded by or coated with said material.

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63. (Previously presented) The agent of claim 47, wherein it is overall in liquid, gel, or paste form and that the protein present or at least one of the enzymes present or at least one of the other components present is, either individually or together with other components, in encapsulated form, microcapsules, or microcapsules made of an amylase-sensitive material.

- 64. (Previously presented) The agent of claim 47, wherein any of the other components of the agent modifies, in particular stabilizes, the amylolytic activity or increases the contribution thereof to the washing or cleaning performance of the agent.
- 65. (Previously presented) A method for cleaning textiles or hard surfaces, comprising cleaning a textile or a hard surface with an active amylolytic protein or derivative thereof of claim 47.
- 66. (Previously presented) A method for cleaning textiles or hard surfaces, comprising cleaning a textile or a hard surface with an agent of claim 47.
- 67. (Previously presented) The method of claim 65, wherein the amylolytic protein or derivative is used in the method step in an amount of from 0.01 mg to 400 mg, 0.02 mg to 200 mg, or 0.02 to 100 mg, per application.
- 68. (Previously presented) The method of claim 66 further comprising cleaning a textile or hard surface with at least one other cleaning-active ingredient or active ingredient.
- 69. (Canceled)
- 70. (Canceled)
- 71. (Previously presented) The method of claim 66 wherein the agent of claim 47 comprises more than one phase.
- 72. (Canceled)
- 73. (Previously presented) A method for improving the washing or cleaning performance of an agent for cleaning, comprising adding to the agent a hybrid amylase whose amino acid sequence comprises in each case in a homologous position at least one partial sequence

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encompassing more than one amino acid, which partial sequence is identical to that of *Bacillus amyloliquefaciens*  $\alpha$ -amylase, and comprises in each case in a homologous position at least one partial sequence encompassing more than one amino acid, this partial sequence being identical to that of *Bacillus licheniformis*  $\alpha$ -amylase, with the points of fusion of the hybrid amylase being located at one or more of positions 17, 34, 76, 108, 112, 142, 147, 149, 151, 163, 174, 179, 185, 191, 198, 207, 231, 234, 244, 256, 263, 276, 431, 84, 99, 429, 201, 19, 433 and 153 according to the numbering of SEQ ID No. 4.

- 74. (Previously presented) The method of claim 73, wherein the hybrid amylase is obtained by deletion of no more than 5 contiguous amino acids, no more than 3 contiguous amino acids, or only one amino acid.
- 75. (Previously presented) The method of claim 73, wherein the hybrid amylase has an amino acid substitution in at least one position, or in the 1, 2 or 3 of positions 132, 320 and 412 according to the counting of SEQ ID No. 4.
- 76. (Previously presented) The method of claim 73, wherein the hybrid amylase has insertions or represents an amylolytic chimeric protein.
- 77. (Previously presented) The method of claim 73, wherein the hybrid amylase is additionally derivatized.
- 78. (Previously presented) The method of claim 73, wherein the hybrid amylase is formed by using nucleic acids which have in the corresponding partial regions the nucleotide sequences indicated in SEQ ID No. 1 and SEQ ID No. 3 or nucleotide sequences synonymous thereto.